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## MEMORANDUM

**TO:** Ashley Nguyen, MTC  
**FROM:** Brent Ogden, DMHM Harris  
**DATE:** August 23, 2007  
**SUBJECT:** Draft Report Summary – Technical Addendum #1 (Tri Valley Supplemental Evaluation)

**PROJECT NO.** 60021094 – Regional Rail Plan

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This memo summarizes the additional information relative to the evaluation of Tri Valley options presented in the Regional Rail Plan Draft Report Summary.

The initial travel demand modeling effort was adequate to select a recommended option for ACE (Alternative 1 was identified as most cost-effective) but did not provide enough detail to clearly distinguish the benefits of the Livermore connectivity options.

In addition, additional time was taken to review the preliminary planning level cost estimates for consistency with prior BART extension projects.

This memo transmits the additional information.

### Study Alternatives

The Draft Report Summary describes two Regional Rail alternatives in the I-680/Tri-Valley Corridor absent High-Speed Rail:

- Alternative 1 – Two station BART extension in median of I-580 to vicinity of Greenville Road; paired with upgrade of existing ACE service to double-track conventional operation to improve travel time, frequencies and service reliability. Also includes I-680 BART line from Martinez to Warm Springs.
- Alternative 2 – One station BART extension east to vicinity of El Charro Road then down El Charro and gravel pit areas turning into UPRR consolidated right-of-way with station in vicinity of Isabel/Stanley; paired with upgrade of existing ACE services to high-speed rail compatible operation.

## ACE

Per the existing Draft Summary Report, the Alternative 1 treatment (upgrade conventional rail) has been shown in the recommended plan. The capital cost of this treatment is \$810 - \$1,010 million versus Alternative 2, which quadruples the Alternative 1 cost (\$3.5 billion to \$4.3 billion) by separating passenger tracks with a new alignment over the Altamont Pass and a tunnel under Niles Canyon; the improvements resulted in an approximate doubling of the Alternative 1 ridership to 18,000-22,000 daily 2050 rail trips. As a result, the Alternative 1 treatment has been recommended absent high speed rail.

The additional modeling conducted to further distinguish the BART options has resulted in a slightly higher ridership; the Year 2050 ridership estimate at the Alameda / San Joaquin screenline has been revised upwards to 9,000 – 11,000 riders for Alternative 1.

There is no change to the ACE recommendation.

## BART

The additional ridership analysis, which omits the I-680 BART line and assumes the Alternative 1 ACE treatment, indicates the following BART ridership for Alternative 1 (BART to Greenville / I-580) and Alternative 2 (BART to Isabel/Stanley). As shown in the table below, the gross trips attracted to a one-station extension would be nearly 90% of the trips attracted with a two-station extension, exclusive of transfers from ACE. The evaluation did not include additional trips that may result from intensification of land use in the station areas; this evaluation would be part of the “next steps” in moving the selected alternative(s) forward in the planning and project development process.

**2050 BART-to-Livermore Daily Trips**

	<b>Baseline</b>	<b>Alt #1<sup>1</sup></b>	<b>Alt #2</b>
<u>Baseline &amp; Infill Stations</u>			
West Dublin/Pleasanton	—	3,700	3,700
Dublin/Pleasanton	24,300	19,300	18,200
<b>ST (Baseline &amp; Infill Stations)</b>	<b>24,300</b>	<b>23,000</b>	<b>21,900</b>
<u>Extension Stations</u>			
Isabel/I-580	—	4,300	—
Isabel/Stanley	—	—	4,800
Greenville Road	—	1,200	—
<b>ST (Extension Stations)</b>	—	<b>5,500</b>	<b>4,800</b>
<b>Total BART Trips</b>	<b>24,300</b>	<b>28,500</b>	<b>26,700</b>
<b>ACE Transfers to BART<sup>2</sup></b>	<b>0</b>	<b>2,000 – 5,000</b>	<b>2,000 – 5,000</b>
<b>Increased Trips over Baseline<sup>3</sup></b>	<b>n/a</b>	<b>6,200 – 9,200</b>	<b>4,400 – 7,400</b>

<sup>1</sup>Alternative 1 without BART I-680 Line

<sup>2</sup>ACE Improvements per Alternative 1; ridership varies depending on Altamont service levels

<sup>3</sup>Does not include transit-oriented development (TOD) potential

The cost of the BART options has been developed by Earth Tech based upon the conceptual engineering drawings, which they prepared. It is a preliminary, planning level total project cost using Year 2006 estimate dollars. The costs have been reviewed by both BART and CHSRA to verify general consistency with BART historic extension costs as well as the CHSRA cost estimating methodology. The costs for the two BART options are estimated at:

- Alternative 1 (Greenville / I-580 with ACE/BART connection - \$ 1,000 - \$1,200 million
- Alternative 2 (Isabel Stanley via El Charro with ACE/BART connection \$ 500 - \$650 million

It should be noted that the cost for the portion in I-580 assumes BART at grade with the freeway widening accomplished in conjunction with freeway improvements. This approach is consistent with previous planning and policy decisions made for BART in I-238 and I-580. However, the cost of widening the freeway between Isabel Avenue and Greenville Road option (about 10 miles) would clearly be much higher than with the Isabel/Stanley option (about 1.5 miles). Furthermore, the Isabel/Stanley estimate assumes BART would be aerial which significantly reduces the right-of-way requirement to accommodate the trackway. No estimate has been prepared to identify the incremental cost of further widening the freeway to accommodate BART at-grade out to Greenville Road but this additional cost would be incurred should BART be extended.

The connectivity provided by the Isabel/Stanley intermodal is superior in that it would allow for a very short vertical or potential cross-platform transfer between BART and ACE within the same station. At the Greenville Road / I-580 station, the BART alignment would swing out of the median so the vertical separation would not be a factor. However, a long walk (approximate 5 minutes travel time from platform to platform) through a connecting concourse or pathway would be required.

Locating a Livermore BART station away from the median of I-580 would require traffic from East Livermore or the Central Valley to use Isabel Avenue (SR 84) to access the station location. However, Isabel Avenue will be upgraded to near Caltrans expressway standards and a brand new freeway interchange will be constructed at I-580 better facilitating vehicle access.

A station site location away from the freeway, while requiring additional access time from the freeway, helps avoid concerns associated with freeway median station locations. For example, freeway median stations located next to or within freeway interchanges force all traffic heading towards the station to mix with traffic heading to and from the freeway, thus resulting in additional traffic congestion or delay. Furthermore, the difficulties associated with providing

short and convenient pedestrian connections to adjacent land uses are significantly hampered by the “barrier” effect of the freeway interchange’s high traffic volumes and/or its remoteness from adjoining land uses.

The Isabel/Stanley site is well served by sub-regional principal bus lines such as the proposed BRT service along Stanley and could also be served well by local transit serving multiple neighborhoods in Livermore. Existing and proposed bicycle/pedestrian pathway facilities would also provide east-west access to the station area from Livermore, Pleasanton and recreation destinations within Alameda County.

In summary, the rationale for recommending the Isabel/Stanley option includes:

- Better intermodal connection with ACE and future potential high-speed rail
- Local ridership nearly equivalent to a two-station extension
- Ability to better intercept trips from east either on improved ACE or high-speed rail services or via a good link to I-580 on the Isabel Avenue (SR 84) expressway
- Significant cost savings compared to I-580 solution both for BART as well as for freeway reconstruction and associated vehicle delay
- A convergence of several multi-modal station access options in one location on opening day

#### High-Speed Rail

As noted, the recommended ACE treatment is absent high-speed rail. With high-speed rail, the treatment would be similar to Alternative 2 with correspondingly significantly higher capital cost and ridership in the 18,000 – 22,000 range over the Altamont as well as additional within Bay Area region ridership.

The draft summary report describes three high-speed rail build-out outcomes:

- High-Speed Rail with Altamont – Would require 4 tracks at all intermediate stations including Tracy, Livermore, Pleasanton and Fremont; would require tunnel beneath Niles Canyon and high bridge at Dumbarton Crossing. The 4 tracks at Livermore would not fit within the existing right-of-way in downtown Livermore along with the freight tracks which would remain plus BART that would be added. However, the potential station track configuration would be feasible at the Isabel/Stanley station location where there is more adequate right-of-way.
- High-Speed Rail with Pacheco – With high-speed rail in Pacheco, it is recognized that there would be justification to potentially accelerate the proposed Regional Rail Plan phasing of the Alternative 1 improvements to ACE standard rail service over Altamont Pass. Language to this effect will be provided in conjunction with a more detailed implementation plan in the revised draft that will be considered by the MTC Planning Committee.
- High-speed Rail with Altamont and Pacheco – This alternative would operate predominantly upgraded regional service through Altamont and predominantly southern California express trains through Pacheco. Accordingly, only 2 tracks would be required,

including at stations. This option also allows for deferring high cost and environmentally challenging segments of Altamont such as provision of a two-track high bridge across Dumbarton and a tunnel under Niles Canyon (in the event passenger-only tracks are developed along the SPRR right-of-way).

The Regional Rail Plan will not recommend a choice between these three options. MTC may chose to comment on high-speed rail options and preferences in conjunction with plan adoption.